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Application No. 10/775,979

Reply to Office Action

**REMARKS***Discussion of Claim Amendments*

Claims 2-3 have been amended to recite that the rosin resin is a rosin ester resin, to include information on the viscosity, electrical conductivity, and sonic velocity of the ink composition, and to delete the description that the ink is free of epoxy resin. Claims 17 and 28 have been amended to recite that the rosin resin is rosin ester resin. Claims 8 has been amended so that it depends from claim 2, rather than from canceled claim 7. No new matter has been added.

*The Office Action*

The Office Action sets forth the following grounds for rejection:

1. Claims 2-4, 7-9, 12-17, and 19-30 are rejected under 35 U.S.C. § 112, first paragraph, for an alleged lack of written description;
2. Claims 2-4, 7-9, 12, 13, 15, and 28-29 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Bhatia et al. (USP 5,567,213) in view of Zou et al. (USP 6,726,756);
3. Claims 2-4, 10, 12, 14-17, 19-22, and 28-30 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Airey et al. (USP 5,407,474) in view of Zou et al.;
4. Claims 2, 3, 7, 12, and 13 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over JP 05-098203; and
5. Claims 23-27 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Bhatia et al. in view of Zou et al.

*Discussion of Section 112, First Paragraph, Rejection (Ground 1)*

Although applicants disagree with the rejection, applicants have amended the claims to expedite the prosecution of the application. The term "free of epoxy resin" has been

Application No. 10/775,979

Reply to Office Action

removed. Accordingly, the rejection under 35 U.S.C. § 112, first paragraph, should be removed.

*Discussion of Obviousness Rejections*

To establish a *prima facie* case for obviousness, the Office must satisfy *three* requirements: (1) the prior art relied upon must contain some suggestion or incentive, coupled with knowledge generally available in the art at the time of the invention that would have motivated those of ordinary skill in the art to modify a reference or combine the references. See, *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1385, 58 USPQ2d 1286, 1293 (Fed. Cir. 2001) (“in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention.”); (2) the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. In other words, hindsight analysis is not allowed. See *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991) (“While the idea of using a monkey gene to probe for a homologous human gene may have been obvious to try, many pitfalls existed that would have eliminated a reasonable expectation of successfully obtaining the EPO gene. Hindsight is not a justifiable basis on which to find that ultimate achievement of a long sought and difficult scientific goal was obvious.”); and (3) the prior art reference or combination of references must teach or suggest all the limitations of the claims. See *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) (“All words in a claim must be considered in judging the patentability of that claim against the prior art.”). The Office would fail to satisfy one or more of the above requirements, as discussed below.

(1) Bhatia et al. in view of Zou et al. (Grounds 2 and 5)

Claims 2-4, 7-9, 12, 13, 15, and 23-29 are rejected as allegedly unpatentable over Bhatia et al. in view of Zou et al. The Office Action states that Bhatia et al. teaches an ink composition comprising a styrene-acrylic resin, a soluble dye, a solvent system that may include a lower aliphatic ketone and an evaporation retardant. The Office Action further

Application No. 10/775,979

Reply to Office Action

states that Bhatia et al. teaches modifiers such as rosin oil or rosin esters. The Office Action also states that Zou et al. teaches an ink jet ink composition comprising a liquid vehicle, one or more binder resins, a colorant, and optionally a surfactant. The Office Action further states that Zou et al. teaches a binder resin that may be a ketone resin, aldehyde resin, cellulose resin, acrylic resin, phenolic resin, rosin resin, and vinyl resin. The Office Action contends that it would have been obvious to one skilled in the art at the time of the invention "to have replaced [the] vinyl resin" with a ketone resin, aldehyde resin, cellulose resin, acrylic resin, phenolic resin, or rosin resin. The Office Action argues that Zou et al. teaches equivalence of the resins. In regards to claims 23-27, the Office argues that the substrates recited in these claims would have been obvious to one of ordinary skill in the art.

The Office Action is in error for a number of reasons. First of all, the contention that it would have been obvious to have replaced the vinyl resin (disclosed by Zou et al.) with ketone resin, aldehyde resin, phenolic resin, or rosin resin (also disclosed by Zou et al.) is, applicants respectfully submit, utterly meaningless. Why would some one skilled in the art take Zou et al.'s vinyl resin and replace with a Zou et al.'s rosin resin? The Office Action supposedly meant to combine Bhatia et al. with Zou et al. but it totally failed to make that combination. It missed the mark by a mile. Instead, it ended up combining Zou et al. with Zou et al.! This is not a valid combination. Accordingly, the Office Action failed to make a *prima facie* case. The rejection is therefore erroneous and untenable.

Secondly, even if the Office combined Bhatia et al. with Zou et al., which applicants respectfully submit that the Office failed to do, a *prima facie* case cannot be made to support obviousness. There is no suggestion or motivation to replace the styrene-acrylic resin of Bhatia et al. with a vinyl resin of Zou et al.

Under the established legal precedence, if a proposal for modifying the prior art in an effort to attain the claimed invention causes the art to become inoperable or destroys its intended function, then the requisite motivation to make the modification would not have existed. See, *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ 2d 1780, 1783, n. 12 (Fed. Cir. 1992) ("A proposed modification is inappropriate for an obviousness inquiry when the proposed modification renders the prior art reference inoperable for its intended purpose"). See also *In re Ratti*, 270 F.2d 810, 813, 123 USPQ 349, 352 (CCPA 1959) (holding that the

Application No. 10/775,979

Reply to Office Action

suggested combination of references improper under section 103 because it "would require a substantial reconstruction and redesign of the elements shown [in a prior art reference] as well as a change in the basic principles under which [that references'] construction was designed to operate"). See also *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984), where the Patent Office had argued, erroneously, that it would have been obvious to turn the apparatus of the prior art upside down. The prior art strainer had an orientation that relied, in part, on gravity to separate dirt and water from gasoline, and the Court held that no motivation would have existed to turn this strainer upside down. Indeed, the Court remarked: "if the [prior art] apparatus were turned upside down, it would be rendered inoperable for its intended purpose". *In re Gordon*, 733 F.2d at 902, 221 USPQ at 1127.

If the Office attempts to modify the ink composition of Bhatia et al. by replacing the styrene-acrylic resin with a vinyl resin of Zou et al., the resulting ink would not serve the intended purpose of Bhatia et al. It would destroy its intended purpose.

Bhatia et al. describes an ink jet ink composition which overcomes the disadvantages of the prior art inks (col. 2, lines 1-3). At col. 1, lines 52-68, Bhatia et al. describes the disadvantages of the prior art ink compositions:

One of the primary disadvantages of ink compositions of the sort described in the foregoing patent is that the composition contains a substantial quantity of water. As a result, the resin binders used, such as the styrene-acrylic acid copolymer there described, must be water saponifiable, that is, having some solubility in water. The necessity of employing water as a substantial component in the solvent system provides numerous disadvantages, notably the lack of firm adherence to *glass and treated metal substrates* on which the ink is deposited during the printing operation. In addition, the use of such systems requires organic solvents which must be miscible with water. That, of course, also imposes limitations on the type of dyes which can be used. In compositions of the prior art, it is not possible to use with any degree of success water-insoluble dyes. Finally, water-based inks tend to dry more slowly (emphasis added).

See also col. 2, lines 4-9:

It is a more specific object of the present invention to provide an ink composition for use in ink jet printing which is formulated to include a resin capable of being *securely bonded to printing substrates* which can be

Application No. 10/775,979

Reply to Office Action

formulated in a composition containing minimum quantities of water  
(emphasis added).

The foregoing shows that Bhatia et al. intends to provide an ink jet ink composition for printing on glass and treated metal substrates so that the messages that are securely bonded or adhered to. As shown in the Declaration, paragraphs 4-5, if one were to replace the styrene-acrylic resin of Bhatia et al. with a vinyl resin of Zou et al., the resulting ink would not serve the intended purpose of Bhatia et al., i.e., either an useful ink would not form or the resulting ink would not have good adherence to glass or treated metal substrates. Accordingly, the Office cannot make a *prima facie* case for obviousness, and the rejection should be withdrawn.

(2) Airey et al. in view of Zou et al. (Ground 3)

Claims 2-4, 10, 12, 14-17, 19-22, and 28-30 are rejected as allegedly unpatentable over Airey et al. in view of Zou et al. The Office Action states that Airey et al. teaches a pigmented ink jet ink composition comprising a binder resin, and that the binder resin may comprise one or more resins such as rosins, esterified resins, acrylic, and styrene acrylic resins. The Office Action argues that it would have been obvious to one of ordinary skill in the art use to use methyl ethyl ketone and the specific resins to arrive at the presently claimed invention.

Applicants respectfully submit that the Office Action has failed to make a *prima facie* case for obviousness. The Office Action states, at page 4, lines 2-4, that the rejection is over a combination of Airey et al. and Zou et al. However, no discussion whatsoever is provided on how the Office is combining Airey et al. and Zou et al. How should an applicant respond to the rejection if the rejection over the combination remains unexplained? The Office has deprived applicants of the due process guaranteed by the Congress. This is a clear and unmistakable violation of applicants' rights. The Office once again failed to make a *prima facie* case. The rejection should be withdrawn for this reason alone.

Although applicants disagree, to expedite the prosecution of the application, applicants have amended claims 2, 3, and 28 to recite a rosin ester resin. Airey et al., either alone or in combination with Zou et al., fails to disclose or suggest to those of ordinary skill

Application No. 10/775,979

Reply to Office Action

in the art the presently claimed invention reciting a rosin ester resin. Note rosin ester resin was recited in claim 7, which is not under rejection on this ground. The subject matter of claim 4 has been merged with claims 2 and 3. Other rejected claims are dependent upon claim 2, 3, or 28.

In view of the foregoing, applicants respectfully submit that the present claims, are patentable over Airey et al. alone and in combination with Zou et al.

(3) JP '203 (Ground 4)

Claims 2, 3, 7, 12, and 13 are rejected as allegedly unpatentable over JP '203 (machine translation). The Office Action states that JP '203 teaches an ink composition comprising an oil color, resin, and an organic solvent. The Office Action further states that JP '203 teaches that the resin may be a combination of epoxy resin, acrylic resin, silicone resin, phenol resin, salt vinyl acetate system resin, and rosin ester. The Office Action admits that JP '203 fails to specifically disclose the use of the methyl ethyl ketone and the specific resins claimed by the applicants. However, the Office Action argues that it would have been obvious to one of ordinary skill in the art to use methyl ethyl ketone and the specific resins disclosed to arrive at the presently claimed invention.

Although applicants disagree with the rejection, applicants have amended claims 2 and 3 to recite the parameters of viscosity, electrical conductivity, and sonic velocity, namely, the subject matter of claim 4. Note claim 4 is not under this rejection. Claim 7 has been canceled, and 12-13 are dependent claims. JP '203 fails to suggest to those of ordinary skill in the art the presently claimed invention.

In view of the foregoing, applicants respectfully submit that the present claims are patentable over JP '203.

Application No. 10/775,979

Reply to Office Action

*Conclusion*

The application is considered in good and proper form for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

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